

2650

10/29/85

NM.11-1

NM.11

MEMORANDUM

TO: FILE

FROM: S. Jones

SUBJECT: Elimination report - TA-1

SITE
NAME: TA-1ALTERNATE
NAME:~~ELITE~~
Main Technical Area
LASL, LANL

CITY: Los Alamos STATE: NM

OWNER(S)

Past: _____ Current: _____
Owner contacted ☐ yes ☐ no; if yes, date contacted _____

TYPE OF OPERATION

☒ Research & Development☐ Facility Type

- ☐ Production scale testing
☐ Pilot Scale
☐ Bench Scale Process
☐ Theoretical Studies
☐ Sample & Analysis

- ☐ Manufacturing
☐ University
☐ Research Organization
☐ Government Sponsored Facility
☐ Other Nuclear weapons

research + development

- ☐ Production
☒ Disposal/Storage

TYPE OF CONTRACT

- ☐ Prime
☐ Subcontractor
☐ Purchase Order

☐ Other information (i.e., cost
+ fixed fee, unit price,
time & material, etc) _____

Contract/Purchase Order # _____

CONTRACTING PERIOD: 1943 - 49

OWNERSHIP:

AEC/MED
OWNEDAEC/MED
LEASEDGOVT
OWNEDGOVT
LEASEDCONTRACTOR
OWNEDCONTRACTOR
LEASED

LANDS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BUILDINGS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EQUIPMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ORE OR RAW MATL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FINAL PRODUCT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WASTE & RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The facility became known as the Los Alamos
Scientific Lab (now LANL) in 1947

AEC/MED INVOLVEMENT AT SITE

Control:

- ☐ AEC/MED managed operations
- ☐ AEC/MED responsible for accountability
- ☐ AEC/MED overviewed operations
- ☐ Contractor had total control
- ☐ unknown

- ☐ Health Physics Protection
 - ☐ Little or None
 - ☐ AEC/MED responsibility
 - ☐ Contractor responsibility

MATERIALS HANDLED:

Type (on basis of records reviewed)

- ☐ No Radioactive
 - ☐ Natural Radioactive from Feed Materials Production
 - ☐ Ore
 - ☐ Refined Source Material
 - ☐ Residue
 - ☐ Natural Radioactive Material from Non-Nuclear Activities
 - ☒ Man-Made
 - ☐ Other _____
- Comment _____

Quantities (on the basis of records reviewed)

- ☐ None ☐ Production Quantities
 - ☐ Small Amounts
- Comment _____

OTHER PERTINENT FACTS:

- ☐ Facility was Licensed
 - ☐ During AEC/MED-Related Operations
 - ☐ For Similar Activities
 - ☐ For Other Activities
- Comment _____

- ☐ Commercial Production Involving Radioactive Material during AEC/MED Operations

- ☒ Facility was Decontaminated and Released

~~2~~ Availability of Close Out Records

- ☐ None ☒ Some ☐ Sufficient

- ☐ Radioactive Status:

	YES	MAYBE	PROBABLY NOT	NO
Contaminated Potential for Exposure (accessible)	---	---	---	X

QUANTITY OF RECORDS AVAILABLE:

☐ Very Little ☐ Some ☒ Sufficient

PROBABILITY OF FINDING ADDITIONAL RECORDS:

☒ Low ☐ Possible ☐ High

RECOMMENDATIONS:

☒ Eliminate
☐ Consider for Remedial Action
☐ Collect More Data

Comment _____

REFERENCES: _____

Summary: TA-1 has been decontaminated and
~~portions of~~ the lead ^{was} ~~was~~ sold. No
FUSRAP activities are needed.

TA-1

This report summarizes the radiological status of
the area formerly known as TA-1

INTRODUCTION

Background

located in Los Alamos County, NM,

The War Department purchased the Los Alamos Ranch School in November 1942, for the site of nuclear weapons research and development for the U.S. Army's Manhattan Engineer District's Project Y. This area was chosen because of its remote location and inaccessability. The initial technical facilities were constructed on 40 acres near the Ranch School, and this area became known as the Main Technical Area. Between March 1943 and the end of July 1945, most of the research and production work involving radioactive materials took place in the Technical Area Laboratory buildings. In early 1947, the Laboratory became known as the Los Alamos Scientific Laboratory (LASL) and is now known as LANL. After 1949, technical activities were gradually relocated to the south across Los Alamos Canyon, where research areas became separate from the residential and community areas. During this expansion, the Main Technical Area became known as Technical Area-1 (TA-1). Figure 1 shows the location of TA-1 in relation to Los Alamos Townsite.

Radioactive materials, including uranium, plutonium, and fission products, were used at TA-1 during the development of the technology for fission explosives and fusion devices. Many prototype devices were tested at the Nevada Test Site and debris and samples were returned to Los Alamos for radiochemical analyses. This work resulted in the contamination of some of the buildings, waste-handling systems, and land.

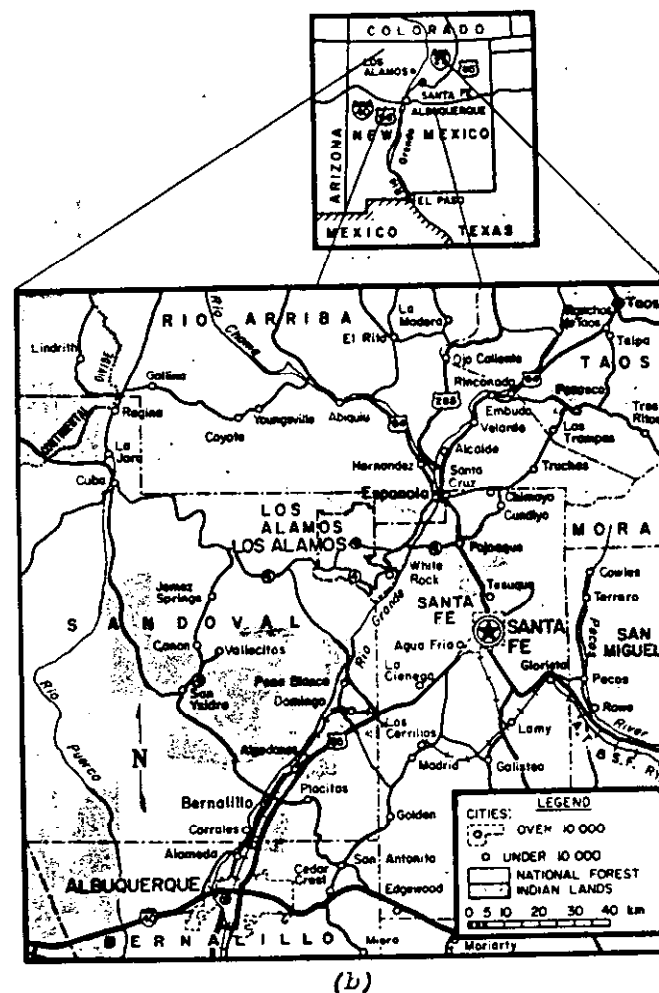
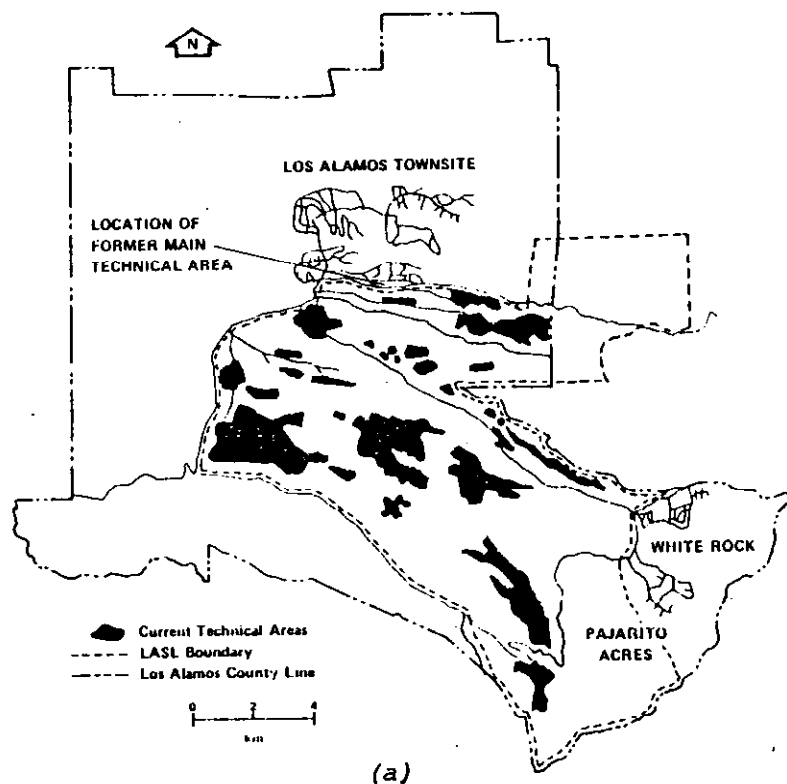


Fig. 1.
 (1a) Los Alamos County setting. LASL is located primarily in Los Alamos County, with an eastern extension into Santa Fe County. The technical areas (shaded) are scattered throughout the reservation, most of them being on relatively flat mesa tops. The Los Alamos townsite and the residential areas of White Rock and Pajarito Acres adjoin the LASL boundary to the north and southeast. (1b) North-central New Mexico.

As new, more permanent facilities became available, the research work moved out of TA-1. Once vacated, the old structures were surveyed, decontaminated as necessary, and either removed or demolished. Major operations to remove structures began in 1954 and continued intermittently through 1965. Sale of the land comprising TA-1 began in 1965, after the buildings were decontaminated and demolished, and by 1974, various county, public, and private buildings had been built on the site.

Where they removed w. in out being demolished and demolished w. in out being removed?

~~Completed?~~

redundant?

~~as of the~~
~~1974~~??

RADIOLOGICAL STATUS

Growing concern over the low-level radioactive contamination at extremely low, but detectable, levels led the AEC to request record searches and environmental radioactivity surveys of certain lands formerly used for or associated with nuclear research, including the remaining undeveloped portion of TA-1. These surveys were carried out by LASL's Health Division in early 1974 to provide information on any radioactivity in excess of background (from natural or fallout radioactivity) on the remaining undeveloped lands on the former TA-1. Samples collected during the 1974 survey showed some concentrations of radioactive contaminants in soil higher than was consistent with northern New Mexico regional background samples, but were not considered health or safety hazards

(e.g., 5 of 55 analyses showed >10 pCi/g of activity for Plutonium-239; 2 of 55 analyses showed >100 pCi/g; the maximum allowable was 224 pCi/g). During excavation in Aug. 1975, a sample of

Based on what??

What was being excavated and why?

sludge collected from under a septic tank that had served a laundry used for contaminated clothing ⁱⁿ during 1944 and 1945 showed higher counts, 114 pCi/g. ^{after} During removal of the tank, another pocket of Plutonium-239 was discovered 1.3m below the surface on ERDA property. Analyses of this pocket showed a maximum concentration of 120,000 pCi/g of early-1945 Hanford plutonium.

An intensive exploratory effort was initiated in 1975-76 to provide assurance that all significant contamination would be identified and any contamination found was to be removed to the lowest practicable level. Because of pressure from private property owners who wished to begin construction, exploratory ^{ation} and decontamination efforts were conducted concurrently. Five high-^{??} (contamination potential) areas were identified for this effort: potential Plutonium contamination areas, Potential uranium contamination areas, potential fission-product contamination areas, industrial waste sewer alignment, and septic tanks. As the survey progressed it was discovered that other areas also required decontamination.

LASL Health Division personnel supervised the operations and presented data and recommendations on decontamination to ERDA's Los Alamos Office and Albuquerque Operations Office. ERDA personnel reviewed the information and made final decisions as to whether the decontamination had proceeded as far as was practicable. All contamination found was removed to the lowest levels practicable on the basis of the high cost of further action and the insignificant health and safety benefits anticipated. (See figure 3)

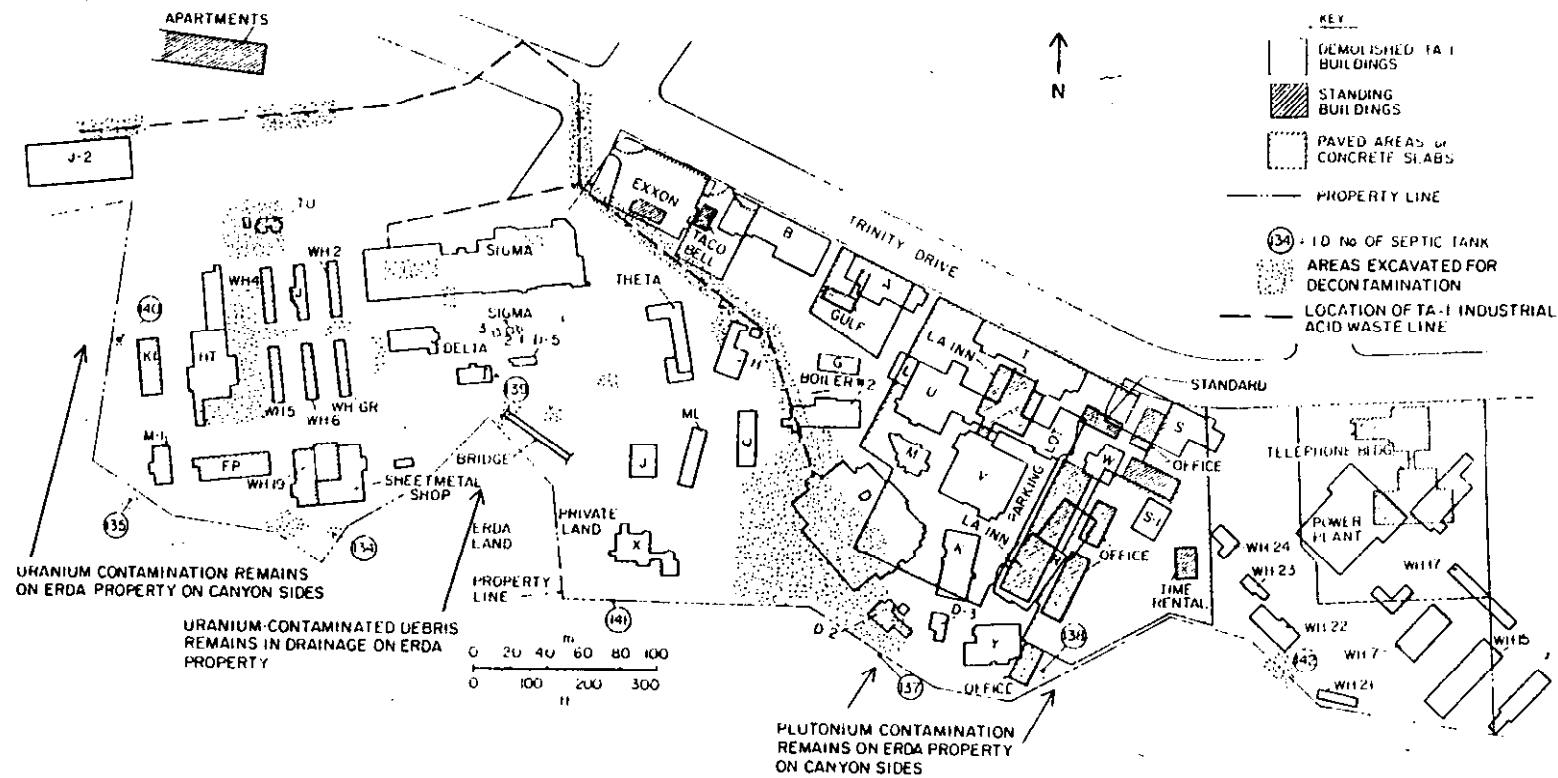


Fig. 3
Decontaminated areas, 1976.

(In the future, contamination might be found, but it is highly unlikely that any health hazard would be encountered . . . any remaining pockets of contaminated soil probably would be greatly diluted by construction activities. . . Some contaminated spots may exist in the previously developed portions . . . but it is unlikely they could cause any concern because there are virtually inaccessible and also would have been diluted by any earthwork associated with the construction of new buildings and improvements.)

Bibliography

Radiological Survey + Decontamination of the
Former main Technical Area (TA-1) at Los Alamos,
New Mexico, LASL report LA-6887, December 1977

FEB 3 1977

Maj. Gen. J. K. Bratton, Director
Division of Military Application

REPORT ON CLEANUP AT TECHNICAL AREA ONE (TA-1) AT LASL

Except for the comments below, we feel the report is satisfactory and provides necessary data regarding the radiological conditions of the property. We recommend the report be made available to the property owners and the public.

It is suggested that additional justification be included for the conclusions that the contaminated material is inaccessible. Specifically, the statement that "some evidence gained during this operation indicates that there are some potentially contaminated spots in the land now under private development, but they are not considered a problem because of their inaccessibility."

It is suggested that since this report is directed toward the radiological survey and cleanup of private land, that the statement about the lack of effort to decontaminate adjacent ERDA-owned land could be deleted from the report. The above suggestions are submitted for your consideration, and we will be glad to discuss them with you if you wish.

W. H. Hollister, Acting Director
Division of Safety, Standards,
and Compliance

Control #00210

Retyped 2/2/77

SURNAME ➤

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SSC:PFS

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